PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 27 July 2000 (27.07.00)	
International application No. PCT/GB99/04152	**Applicant's or agent's file reference** AJS/D088300PWO
International filing date (day/month/year) 09 December 1999 (09.12.99)	**Priority date** (day/month/year) 10 December 1998 (10.12.98)
Applicant HAJEER, Ali et al	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

25 May 2000 (25.05.00)

[] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Pascal Piriou

Telephone No.: (41-22) 338.83.38

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 99/04152

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NELSON P J ET AL: "GENOMIC ORGANIZATION AND TRANSCIPTIONAL REGULATION OF THE RANTES CHEMOKINE GENE" JOURNAL OF IMMUNOLOGY,US,THE WILLIAMS AND WILKINS CO. BALTIMORE, vol. 151, no. 5, 1 September 1993 (1993-09-01), pages 2601-2612, XP002047102 ISSN: 0022-1767 cited in the application see whole doc. esp. p.2610, 1. col. --- -/---	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 April 2000	27/04/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Müller, F

1

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	SNOWDEN N. ET AL.,: "Rantes role in rheumatoid arthritis" THE LANCET, vol. 343, - 26 February 1994 (1994-02-26) pages 547-548, XP002135174 cited in the application the whole document	
A	ARENZANA-SEISDEDOS F ET AL: "HIV BLOCKED BY CHEMOKINE ANTAGONIST" NATURE,GB,MACMILLAN JOURNALS LTD. LONDON, vol. 383, no. 6599, 3 October 1996 (1996-10-03), page 400 XP002027718 ISSN: 0028-0836 the whole document	
A	COCCHI F ET AL: "IDENTIFICATION OF RANTES, MIP-1ALPHA, AND MIP-1BETA AS THE MAJOR HIV-SUPPRESSIVE FACTORS PRODUCED BY CD8+ T CELLS" SCIENCE,US,AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, vol. 270, 15 December 1995 (1995-12-15), pages 1811-1815, XP000616644 ISSN: 0036-8075 cited in the application the whole document	
P,A	WO 99 37815 A (AKZO NOBEL NV ;SHURTLIFF ROXANNE (US); WILLIAMS KIMBERLY G (US); R) 29 July 1999 (1999-07-29)	
P,X	HAJEER A.H. ET AL.,: "A polymorphism at position -403 in the human Rantes promoter" EUROP. J. IMMUNOGENETICS, vol. 26, no. 5, - October 1999 (1999-10) pages 375-376, XP000901614 the whole document	1-5, 8-12,14
P,X	AL SHARIF F. ET AL.,: "A rare polymorphism at position -28 in the human Rantes promoter" EUROP. J. IMMUNOGENETICS, vol. 26, no. 5, - October 1999 (1999-10) pages 373-374, XP000901613 see whole doc. the whole document	1-3, 6-11,13, 14

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
P,X	LIU H. ET AL.,: "Polymorphism in Rantes chemokine promoter affects HI-1 disease progression" PROC. NATL. ACAD. SCI. USA, vol. 96, no. 8, - 13 April 1999 (1999-04-13) page 4581 XP002135175 cited in the application the whole document	1-20

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PATENT COOPERATION TREATY

PCT

REC'D 23 FEB 2001
WIPO PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
AJS/D088300PWO		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/GB99/04152	09/12/1999	10/12/1998
International Patent Classification (IPC) or national classification and IPC C12Q1/68		
Applicant THE VICTORIA UNIVERSITY OF MANCHESTER et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

 ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

 - I ☒ Basis of the report
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☒ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
25/05/2000	19.02.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Hinchliffe, P Telephone No. +49 89 2399 8431

Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/04152

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*:
Description, pages:

1-38 as originally filed

Claims, No.:

1-20 as originally filed

Drawings, sheets:

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 15-20 with respect to I.A..

because:

☒ the said international application, or the said claims Nos. 15-20 relate to the following subject matter which does not require an international preliminary examination (*specify*):
see separate sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination report cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1-20

	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-20
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-14
	No:	Claims	15-20

2. *Citations and explanations*
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

ITEM III

1. Claims 15-20 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT).

ITEM V

1. The subject matter of the claims would appear to fulfill the requirements of both Articles 33(2) and 33(3) PCT insofar as none of the documents cited in the ISR disclose a link between RANTES polymorphisms and disease. Consequently a method of linking the disease with a polymorphism in the RANTES gene expression is new and involves an inventive step.

2. For the assessment of the present claims 15-20 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

ITEM VIII

1. Contrary to the requirements of Article 6 PCT, the subject matter of claims 1-4,8-11,14-20 is not sufficiently supported by the description. The skilled person, when trying to repeat the said claims would be in position of the teachings made in the prior art. In particular D1 (as cited in the ISR) would indicate that a huge number of transcription binding elements are to be found in the 5' untranslated region of the gene. Furthermore from D2, D3 and D4 (as cited in the ISR) the skilled person would also be aware of the implications of the gene in various disorders. Consequently the reference to an unknown polymorphism and an unknown disease (as found in these claims) would be considered to be unclear as the

skilled person would be required to carry out a massive screening of cell types and genotypes. In addition the only work supported by the description relates to the -400 and -28 polymorphisms.
Consequently the subject matter of the independent claims should relate to these polymorphisms in order to fulfill the requirements of Article 6 PCT.

2. Claims 4,6,12,13 contain a reference to a published document. The application as a whole should be self contained and thus a reference to a sequence found in a prior art document that is essential to the *modus operandi* of the invention is thus considered to be unclear (Article 6 PCT).

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C12Q 1/68	A1	(11) International Publication Number: **WO 00/34516**
		(43) International Publication Date: 15 June 2000 (15.06.00)

(21) International Application Number: PCT/GB99/04152

(22) International Filing Date: 9 December 1999 (09.12.99)

(30) Priority Data:

9827032.5	10 December 1998 (10.12.98)	GB
9922984.1	29 September 1999 (29.09.99)	GB

(71) Applicant *(for all designated States except US)*: THE VICTORIA UNIVERSITY OF MANCHESTER [GB/GB]; Oxford Road, Manchester M13 9PL (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: HAJEER, Ali [GB/GB]; 36 Delacourt Road, Fallowfield, Manchester M13 6BX (GB). OLLIER, William [GB/GB]; 14 Brooklands Drive, Goostry, Cheshire CW4 8JB (GB).

(74) Agent: ATKINSON, Peter, Birch; Marks & Clerk, Sussex House, 83–85 Mosley Street, Manchester M2 3LG (GB).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: DETECTION OF RANTES GENE PROMOTOR POLYMORPHISMS

(57) Abstract

The present invention relates to an *in vitro* method for diagnosing or detecting a predisposition to a disease or disorder associated with abnormal RANTES gene expression, the method comprising examining the RANTES gene promoter to detect the presence of a genetic polymorphism and a method of treatment of patients with such diseases comprising administering a RANTES modulator.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania
AM	Armenia
AT	Austria
AU	Australia
AZ	Azerbaijan
BA	Bosnia and Herzegovina
BB	Barbados
BE	Belgium
BF	Burkina Faso
BG	Bulgaria
BJ	Benin
BR	Brazil
BY	Belarus
CA	Canada
CF	Central African Republic
CG	Congo
CH	Switzerland
CI	Côte d'Ivoire
CM	Cameroon
CN	China
CU	Cuba
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GA	Gabon
GB	United Kingdom
GE	Georgia
GH	Ghana
GN	Guinea
GR	Greece
HU	Hungary
IE	Ireland
IL	Israel
IS	Iceland
IT	Italy
JP	Japan
KE	Kenya
KG	Kyrgyzstan
KP	Democratic People's Republic of Korea
KR	Republic of Korea
KZ	Kazakstan
LC	Saint Lucia
LI	Liechtenstein
LK	Sri Lanka
LR	Liberia
LS	Lesotho
LT	Lithuania
LU	Luxembourg
LV	Latvia
MC	Monaco
MD	Republic of Moldova
MG	Madagascar
MK	The former Yugoslav Republic of Macedonia
ML	Mali
MN	Mongolia
MR	Mauritania
MW	Malawi
MX	Mexico
NE	Niger
NL	Netherlands
NO	Norway
NZ	New Zealand
PL	Poland
PT	Portugal
RO	Romania
RU	Russian Federation
SD	Sudan
SE	Sweden
SG	Singapore
SI	Slovenia
SK	Slovakia
SN	Senegal
SZ	Swaziland
TD	Chad
TG	Togo
TJ	Tajikistan
TM	Turkmenistan
TR	Turkey
TT	Trinidad and Tobago
UA	Ukraine
UG	Uganda
US	United States of America
UZ	Uzbekistan
VN	Viet Nam
YU	Yugoslavia
ZW	Zimbabwe

INTERNATIONAL SEARCH REPORT

Intern. ...onal Application No
PCT/GB 99/04152

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	NELSON P J ET AL: "GENOMIC ORGANIZATION AND TRANSCIPTIONAL REGULATION OF THE RANTES CHEMOKINE GENE" JOURNAL OF IMMUNOLOGY,US,THE WILLIAMS AND WILKINS CO. BALTIMORE, vol. 151, no. 5, 1 September 1993 (1993-09-01), pages 2601-2612, XP002047102 ISSN: 0022-1767 cited in the application see whole doc. esp. p.2610, 1. col. --- -/--	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 April 2000	27/04/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Müller, F

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Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	SNOWDEN N. ET AL.,: "Rantes role in rheumatoid arthritis" THE LANCET, vol. 343, - 26 February 1994 (1994-02-26) pages 547-548, XP002135174 cited in the application the whole document	
A	ARENZANA-SEISDEDOS F ET AL: "HIV BLOCKED BY CHEMOKINE ANTAGONIST" NATURE,GB,MACMILLAN JOURNALS LTD. LONDON, vol. 383, no. 6599, 3 October 1996 (1996-10-03), page 400 XP002027718 ISSN: 0028-0836 the whole document	
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P,A	WO 99 37815 A (AKZO NOBEL NV ;SHURTLIFF ROXANNE (US); WILLIAMS KIMBERLY G (US); R) 29 July 1999 (1999-07-29)	
P,X	HAJEER A.H. ET AL.,: "A polymorphism at position -403 in the human Rantes promoter" EUROP. J. IMMUNOGENETICS, vol. 26, no. 5, - October 1999 (1999-10) pages 375-376, XP000901614 the whole document	1-5, 8-12,14
P,X	AL SHARIF F. ET AL.,: "A rare polymorphism at position -28 in the human Rantes promoter" EUROP. J. IMMUNOGENETICS, vol. 26, no. 5, - October 1999 (1999-10) pages 373-374, XP000901613 see whole doc. the whole document	1-3, 6-11,13, 14

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INTERNATIONAL SEARCH REPORT

Intern...nal Application No
PCT/GB 99/04152

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
P,X	LIU H. ET AL.,: "Polymorphism in Rantes chemokine promoter affects HI-1 disease progression" PROC. NATL. ACAD. SCI. USA, vol. 96, no. 8, - 13 April 1999 (1999-04-13) page 4581 XP002135175 cited in the application the whole document	1-20

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 99/04152

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Remark: Although claims 15-17 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

2. [] Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. [] Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. [] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. [] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[] The additional search fees were accompanied by the applicant's protest.

[] No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Interr: ıal Application No
PCT/GB 99/04152

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9937815 A	29-07-1999	AU 2333799 A	09-08-1999

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
AJS/D088300PWO		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/GB 99/ 04152	09/12/1999	10/12/1998
Applicant		
THE VICTORIA UNIVERSITY OF MANCHESTER et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

 a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

 [] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

 b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

 [] contained in the international application in written form.

 [] filed together with the international application in computer readable form.

 [X] furnished subsequently to this Authority in written form.

 [X] furnished subsequently to this Authority in computer readble form.

 [X] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

 [X] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [X] **Certain claims were found unsearchable** (See Box I).

3. [] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

 [] the text is approved as submitted by the applicant.

 [X] the text has been established by this Authority to read as follows:

 DETECTION OF RANTES GENE PROMOTOR POLYMORPHISMS

5. With regard to the **abstract,**

 [X] the text is approved as submitted by the applicant.

 [] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. _____

 [] as suggested by the applicant.

 [] because the applicant failed to suggest a figure.

 [] because this figure better characterizes the invention.

 [X] None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 99/ 04152

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Remark: Although claims 15-17 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

2. [] Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. [] Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. [] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. [] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[] The additional search fees were accompanied by the applicant's protest.

[] No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 99/04152

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NELSON P J ET AL: "GENOMIC ORGANIZATION AND TRANSCIPTIONAL REGULATION OF THE RANTES CHEMOKINE GENE" JOURNAL OF IMMUNOLOGY,US,THE WILLIAMS AND WILKINS CO. BALTIMORE, vol. 151, no. 5, 1 September 1993 (1993-09-01), pages 2601-2612, XP002047102 ISSN: 0022-1767 cited in the application see whole doc. esp. p.2610, 1. col. --- -/--	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 April 2000	27/04/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Müller, F

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Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SNOWDEN N. ET AL.,: "Rantes role in rheumatoid arthritis" THE LANCET, vol. 343, - 26 February 1994 (1994-02-26) pages 547-548, XP002135174 cited in the application the whole document	
A	ARENZANA-SEISDEDOS F ET AL: "HIV BLOCKED BY CHEMOKINE ANTAGONIST" NATURE,GB,MACMILLAN JOURNALS LTD. LONDON, vol. 383, no. 6599, 3 October 1996 (1996-10-03), page 400 XP002027718 ISSN: 0028-0836 the whole document	
A	COCCHI F ET AL: "IDENTIFICATION OF RANTES, MIP-1ALPHA, AND MIP-1BETA AS THE MAJOR HIV-SUPPRESSIVE FACTORS PRODUCED BY CD8+ T CELLS" SCIENCE,US,AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, vol. 270, 15 December 1995 (1995-12-15), pages 1811-1815, XP000616644 ISSN: 0036-8075 cited in the application the whole document	
P,A	WO 99 37815 A (AKZO NOBEL NV ;SHURTLIFF ROXANNE (US); WILLIAMS KIMBERLY G (US); R) 29 July 1999 (1999-07-29)	
P,X	HAJEER A.H. ET AL.,: "A polymorphism at position -403 in the human Rantes promoter" EUROP. J. IMMUNOGENETICS, vol. 26, no. 5, - October 1999 (1999-10) pages 375-376, XP000901614 the whole document	1-5, 8-12,14
P,X	AL SHARIF F. ET AL.,: "A rare polymorphism at position -28 in the human Rantes promoter" EUROP. J. IMMUNOGENETICS, vol. 26, no. 5, - October 1999 (1999-10) pages 373-374, XP000901613 see whole doc. the whole document	1-3, 6-11,13, 14

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
P,X	LIU H. ET AL.,: "Polymorphism in Rantes chemokine promoter affects HI-1 disease progression" PROC. NATL. ACAD. SCI. USA, vol. 96, no. 8, - 13 April 1999 (1999-04-13) page 4581 XP002135175 cited in the application the whole document	1-20

INTERNATIONAL SEARCH REPORT

nation on patent family members

rnational Application No
PCT/GB 99/04152

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9937815 A	29-07-1999	AU 2333799 A	09-08-1999